



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/733,016

12/10/2003

Minjie Lin

33280

7499

26327

7590

02/06/2008

THE LAW OFFICE OF KIRK D. WILLIAMS
PO BOX 61538
DENVER, CO 80206-8538

EXAMINER

LE, DEBBIE M

ART UNIT

PAPER NUMBER

2168

MAIL DATE

DELIVERY MODE

02/06/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/733,016

Applicant(s)

LIN ET AL.

Examiner

DEBBIE M. LE

Art Unit

2168

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

Applicants' arguments filed on November 19, 2007. Claims 1-23 are pending for examination.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Butehorn et al (US Patent Application No. 2004/0132451 A1) in view of Basturk et al (US Patent 6,938,095 B2).

As per claim 1, Butehorn discloses a method comprising:

receiving a set of addresses from a client indicating route updates of interest to the client and a set of types of routing changes that are of interest (as receives routing information from one of the terminals, wherein the routing information specifies reachability of a host that is within a data network served by the one terminal) (Fig. 6, parag. 0014, 83, 85, 93);

maintaining one or more data structures including information corresponding to the set of addresses and the set of types of routing changes that are of interest (as the route server modifies a database storing routes reachable over the satellite network based on the routing information, i.e., route table) (parg. 0013);

receiving a particular route update (as receiving an update from a route client for a delete route) (parg. 0093); and

notifying the client of the particular route update in response to identifying the particular route update corresponds to both at least one address in the set of addresses and at least one routing attribute in the set of types of routing changes that are of interest (as message is transmitted to the terminals based on the modified route table for updating of respective route table of the terminals) (parg. 0014).

Butehorn does not explicitly teach distributing routing information within a router, wherein the client is within the router. However, Basturk discloses distributing routing information within a router (Fig. 1B, col. 9, lines 7-13, exchange of route data within a distributed scalable router), wherein the client is within the router (Fig. 1B, col. 9, lines 10-17, 26-29, as line cards, control cards, fabric processors (i.e., clients) are distributed within the router (Fig. 1B, element 10). Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to combine the teachings of the cited references to implement the step for distributing routing information within a router, wherein the client is within the router as taught by Basturk because it would enable reduction of outbound packet buffering and would allow for the frequency of updates (i.e., entries in a routing table) to adjust the speed at which they can be processed on the receiver end, as suggested by Basturk (col. 3, lines 58-61).

As per claim 2, Butehorn teaches wherein said at least one routing attribute includes a change in an interface for reaching an address in the set of addresses (parg. 0040, last 4 lines).

As per claim 3, Butehorn teaches wherein said notifying the client of the particular route update includes notifying the client of the address (parg. 0057).

As per claim 4, Butehorn teaches wherein said at least one routing attribute includes a change in a path from the router to an address in the set of addresses (parg. 0049, last 6 lines).

As per claim 5, Butehorn teaches wherein the address is directly reachable from the router (parg. 0040, last 3 lines).

As per claim 6, Butehorn teaches wherein said at least one routing attribute includes a change in whether an address in the set of addresses is directly reachable or is not directly reachable (parg. 0066-0067, 0090).

As per claim 7, Butehorn teaches wherein said at least one routing attribute includes a change in a distance to reach an address in the set of addresses (parg. 0043).

As per claim 8, Butehorn teaches wherein said at least one routing attribute includes a change in a cost metric to reach an address in the set of addresses (parg. 0070).

As per claim 9, Butehorn discloses a method performed within a device for distributing routing information within the device, the method comprising:

receiving a first set of addresses from a first client indicating route updates of interest to the first client and a first set of types of routing changes that are of interest to the first client (as receives routing information from one of the terminals, wherein the routing information specifies reachability of a host that is within a data network served by the one terminal parg. 0014, and 0057, satellite context identifier which uniquely identifies the customer for a region which is equivalent to a first or a second set of addresses);

receiving a second set of addresses from a second client indicating route updates of interest to the second client and a second set of types of routing changes that are of interest to the second client (as receives routing information from one of the terminals, wherein the routing information specifies

reachability of a host that is within a data network served by the one terminal) (parg. 0014) and (satellite context identifier which uniquely identifies the customer for a region (parg. 0057) which is equivalent to a first or a second set of addresses);

maintaining one or more data structures including information corresponding to the first and the second sets of addresses and the first and the second sets of types of routing changes that are of interest (as the route server modifies a database storing routes reachable over the satellite network based on the routing information, i.e., route table) (parg. 0013) and (parg. 0063 that a network operation center (hereinafter "NOC") provides an address server, which contains a database of all the satellite MAC addresses assigned to all customer networks supported by satellite for each satellite in a given region);

receiving a particular route update (as receiving an update from a route client for a delete route) (parg. 0093) and (parg. 0110, "Route Change Update);

performing one or more lookup operations on said one or more data structures to identify a result corresponding to the particular route update (as table lookups or using queries address server to the NOC, parg. 0054), the result identifying the first client but not the second client, and the particular route update corresponding to a particular type of routing change identified in the first set of types of routing changes that are of interest (as a route server disseminates the collects routes to the terminals for updating of their respective route tables according to the Satellite Context Identifier, which is uniquely identifies the customer for a region) (abstract, last 6 lines) and

notifying the first client but not the second client of the particular route update in response to the result identifying the first client but not the second client (parg. 0063 that a network operation center (hereinafter "NOC") provides an address server, which contains a database of all the satellite MAC addresses assigned to all customer networks supported by satellite for each satellite in a given region, parg. 0057, wherein Satellite Context Identifier which uniquely identifies the customer for a region); and

the particular route update corresponds to a particular type of routing change identified in the first set of types of routing changes that are of interest (as message is transmitted to the terminals based on the modified route table for updating of respective route table of the terminals) (parg. 0014, 0012).

Butehorn does not explicitly teach distributing routing information within a device, wherein the first client and the second client are within the device. However, Basturk discloses distributing routing information within a device (Fig. 1B, col. 9, lines 7-13, exchange of route data within a distributed scalable router or distributed processor router), wherein the first client (Fig. 1B, sheft 20A includes a plurality of line cards) and the second client (Fig. 1B, sheft 20N includes a plurality of line cards) are within the device (Fig. 1B, col. 15, lines 60-67, col. 9, lines 10-17, 26-29, as line cards, control cards, fabric processors (i.e., clients) are distributed within the router (Fig. 1B, element 10). Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to combine the teachings of the cited references to implement the step for distributing routing information within a device, wherein the first client and the

second client are within the device as taught by Basturk because it would enable reduction of outbound packet buffering and would allow for the frequency of updates (i.e., entries in a routing table) to adjust the speed at which they can be processed on the receiver end, as suggested by Basturk (col. 3, lines 58-61).

As per claim 10, Butehorn teaches wherein said one or more data structures maintains a single set of types of routing changes that are of interest to the first and the second clients based on the first and the second sets of types of routing changes that are of interest (parg. 0188).

As per claim 11, Butehorn teaches wherein said information maintained by said one or more data structures identifies different states of interest by clients, wherein said different states of interest include: whether the first client, the second client, both the first and second clients, and neither the first or second client are interested in a particular type of routing change (parg. 0189, i.e., route change update message and format of a route change update entry, wherein route change update messages also includes satellite context identifier).

As per claim 12, Butehorn teaches wherein a single indication of said different states of interest by clients is maintained for all of the addresses in the first and second sets of addresses (parg. 0105, 0125).

As per claim 13, Butehorn teaches wherein an indication of said different states of interest by clients is maintained for each address of said first and second sets of addresses (parg. 0105, 0125).

As per claim 14, Butehorn discloses a method performed within a device for distributing routing information within the device, the method comprising:

maintaining a data structure of route dependencies (Fig. 8A, i.e., next hub network address) including routes of interest to one or more clients (as Satellite Context Identifier, which is uniquely identifies the customer for a region) (Fig. 8A, parag 0057);

receiving a routing update identifying a particular route (as receiving an update from a route client for a delete route) (parg. 0093) and (parg. 0110, "Route Change Update);

identifying that no client of said one or more clients has subscribed to receive an update corresponding to the particular route; identifying a second particular route dependent on the particular route; identifying a particular client of said one or more clients has subscribed to receive an update corresponding to the second particular route (as IRSRP redirect routing provides point-to-point fashion to another ST port the proper route) (parg. 0086); and

notifying the particular client of the update to the particular route in response to said identifying the particular client has subscribed to receive an update corresponding to the second particular route (as IRSP redirect routing message within an ST port is defined as an ISRP redirect client) (parg. 0086).

Butehorn does not explicitly teach distributing routing information within a device, wherein said one or more clients are within the device. However, Basturk discloses distributing routing information within a device (Fig. 1B, col. 9, lines 7-13, exchange of route data within a distributed scalable router, distributed

processor router), wherein said one or more clients are within the device (Fig. 1B, col. 9, lines 10-17, 26-29, as line cards, control cards, fabric processors (i.e., clients) are distributed within the router (Fig. 1B, element 10). Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to combine the teachings of the cited references to implement the step for distributing routing information within a device, wherein said one or more clients are within the device as taught by Basturk because it would enable reduction of outbound packet buffering and would allow for the frequency of updates (i.e., entries in a routing table) to adjust the speed at which they can be processed on the receiver end, as suggested by Basturk (col. 3, lines 58-61).

As per claim 15, Butehorn teaches identifying a change corresponding to the second particular route matches a types of routing changes that are of interest to the particular client; and wherein said notify the particular client is performed in response to said identifying the particular client has subscribed to receive an update corresponding to the second particular route and said identifying the change corresponding to the second particular route matches a types of routing changes that are of interest to the particular client (parg. 0070, 0072).

Claims 16, 17 are rejected under the same rationale as state in independent claim 1 arguments.

Claims 18, 20 and 22 are rejected under the same rationale as state in independent claim 14 arguments.

Claims 19, 21, and 23 have the same limitations as claim 15, therefore, they are rejected under the same subject matter.

Response to Arguments

Applicant's arguments filed November 19, 2007 have been fully considered but they are not persuasive.

Applicants agreed that Basturk et al. does teach distributing routing information within a router. However, Basturk fails to provide a modification to combine with Butehorn's teachings.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Butehorn is directed to a method for a routing information change update among route server and multiple route clients, and Basturk is directed to a method for providing rout changes to a set of nodes and routers having interest in the changes. Because the two references are concerned with the solution to problem of routing change update information among nodes and routers, there is an implicit motivation to combine these references. In other words, the ordinary skilled artisan, during his/her quest for a

solution to the cited problem, would look to the cited references at the time the invention was made. Consequently, the ordinary skilled artisan, would have been motivated to combine the cited references since Basturk's teaching distributing routing information within a router would enable reduction of outbound packet buffering and would allow for the frequency of updates (i.e., entries in a routing table) to adjust the speed at which they can be processed on the receiver end, as suggested by Basturk (col. 3, lines 58-61).

Secondly, Applicant argues that the Office action refers "routing information" as disclosed by Butehorn teaches "route updates" and types of route changes", thus Applicants demands the Office action to show evidence that its routing information includes both "route updates" and "types of route changes".

In response, Applicant is further directed to Fig. 6, for "route update" and "route change update" (i.e., deleted routes) (paragraphs 83, 85, 93).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory

action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DEBBIE M. LE whose telephone number is (571) 272-4111. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Vo can be reached on (571) 272-3642. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


DEBBIE LE
PRIMARY EXAMINER
1/31/08